City of South Salt Lake
Fire Code Training
Exiting, Egress Systems and Egress Control

11-27-12

SOUTH SALT LAKE FIRE DEPARTMENT

This document is designed as a summary guide using IFC requirements for the provisions associated with exiting, egress control and egress delay.

Key Ingredients to “Means of Egress

- The means of egress shall have a ceiling height of not less the 7 feet 6 inches, except for specific approved protruding objects.
- Walking surfaces of the means of egress shall have a slip-resistant surface and be securely attached.
- Elevators, escalators and moving walks shall not be used as a component of a required means of egress from any other part of the building (except if part of an accessible means of egress).
- Any device or alarm installed to restrict the improper use of a means of egress shall be designed and installed so that it cannot, even in case of failure, impede or prevent emergency use of such means of egress, unless otherwise approved by the appropriate code.
- Means of egress shall be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency.
- Doors in the means of egress shall not require special knowledge or locking arrangements.

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What are the basics of an egress system?

Egress has three main parts;

The Exit Access,
The Exit, and
The Exit Discharge.

Exit Access That portion of a means of egress that leads to an exit.

Exit That portion of a means of egress that is separated from all other spaces of a building or structure by construction or equipment as required to provide a protected way of travel to the exit discharge.

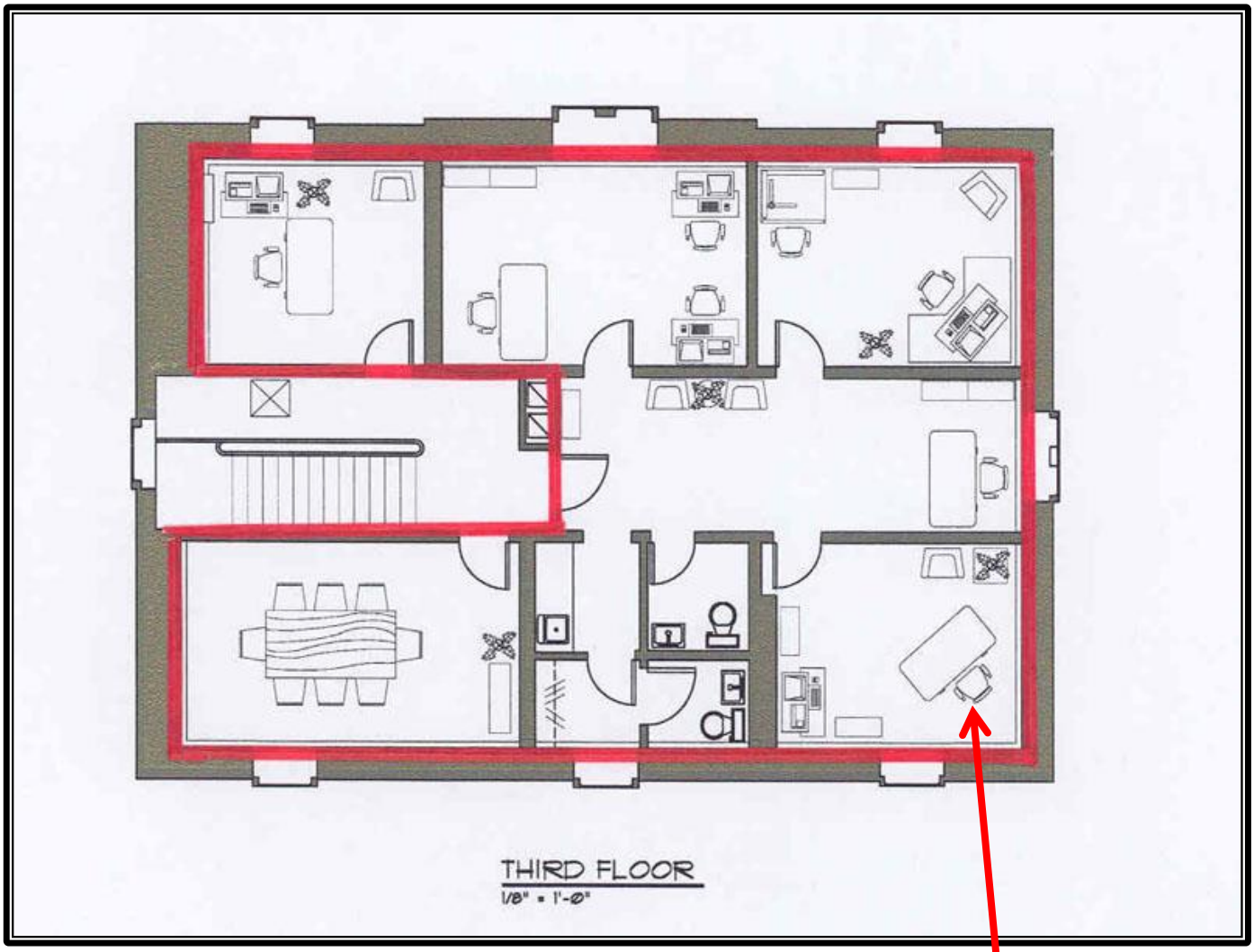
Exit Discharge That portion of a means of egress between the termination of an exit and a public way.

Example

If I am in my office, that area is called the exit access. The path of travel that I take to the stairway is considered the exit access as well. If I step into a rated stairwell I am now in the exit. If the stairway is not rated, the space is part of the exit access. If I work on the first floor the door that leads to the outside is considered the exit. Once I leave the door and walk to my car, I am in the exit discharge.

Please identify:

Exit Access
The Exit and
Exit Discharge



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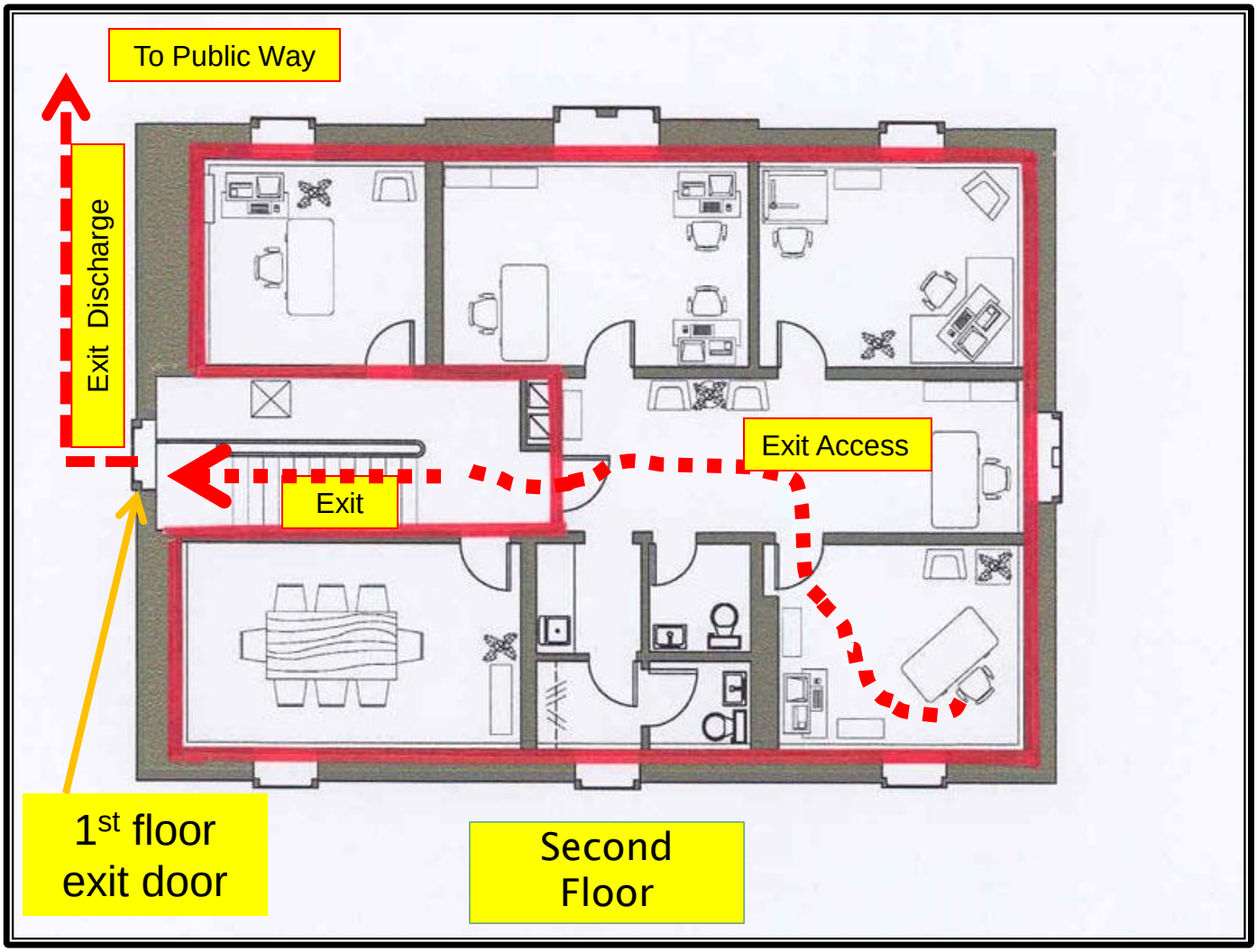
Please identify:

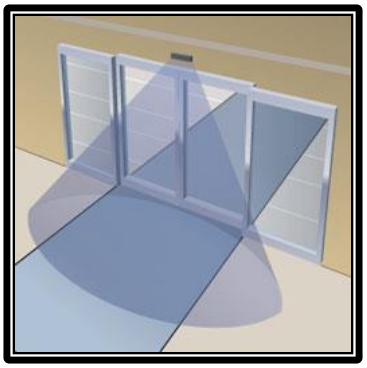
Exit Access
The Exit and
Exit Discharge
Public Way



Rated wall

Definitions

Motion Sensors A device used to activate a door when it detects a moving object. Motion sensors can typically distinguish between objects moving toward the door or away from the door. Motion sensors **cannot detect still objects** such as a person stopped in the opening or closing path of the door.



Typical Motion Sensor

FIRE EXIT HARDWARE. Panic hardware that is *listed for* use on *fire door assemblies.*

EXIT. That portion of a *means of egress system which is separated* from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the *exit access and the exit discharge. Exits include exterior exit* doors at the *level of exit discharge, vertical exit enclosures, exit passageways, exterior exit stairways, exterior exit ramps and horizontal exits.*

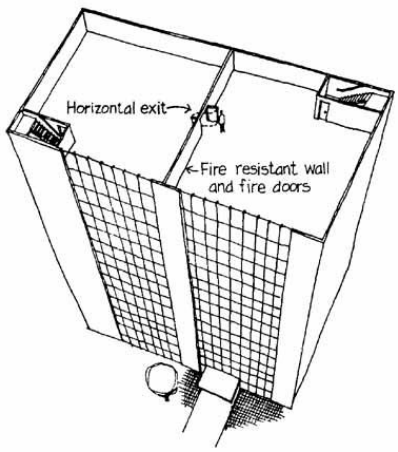
EXIT ACCESS. That portion of a *means of egress system that* leads from any occupied portion of a building or structure to an *exit.*

EXIT ACCESS DOORWAY. A door or access point along the path of egress travel from an occupied room, area or space where the path of egress enters an intervening room, corridor, unenclosed *exit access stair or unenclosed exit access ramp.*

EXIT DISCHARGE. That portion of a *means of egress system* between the termination of an *exit and a public way.*

EXIT DISCHARGE, LEVEL OF. The *story at the point at* which an *exit terminates and an exit discharge begins.* EXIT ENCLOSURE. An *exit component that is separated* from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a vertical or horizontal direction to the *exit discharge or the public way.*

EXIT, HORIZONTAL. A path of egress travel from one building to an area in another building on approximately the same level, or a path of egress travel through or around a wall or partition to an area on approximately the same level in the same building, which affords safety from fire and smoke from the area of incidence and areas communicating therewith.



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EXIT PASSAGEWAY. An *exit component that is separated* from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a horizontal direction to the *exit discharge or the public way.*

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IFC 1008.1 Doors. Means of egress doors shall meet the requirements of this section. Doors serving a *means of egress system* shall meet the requirements of this section and Section 1020.2.

Doors provided for egress purposes in numbers greater than required by this code shall meet the requirements of this section.

Means of egress doors shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors. Mirrors or similar reflecting materials shall not be used on *means of egress doors.*

Means of egress doors shall not be concealed by curtains, drapes, decorations or similar materials.

Illustrated are curtains that can be pulled closed. In so doing the exit door becomes concealed. This is not allowed by code.

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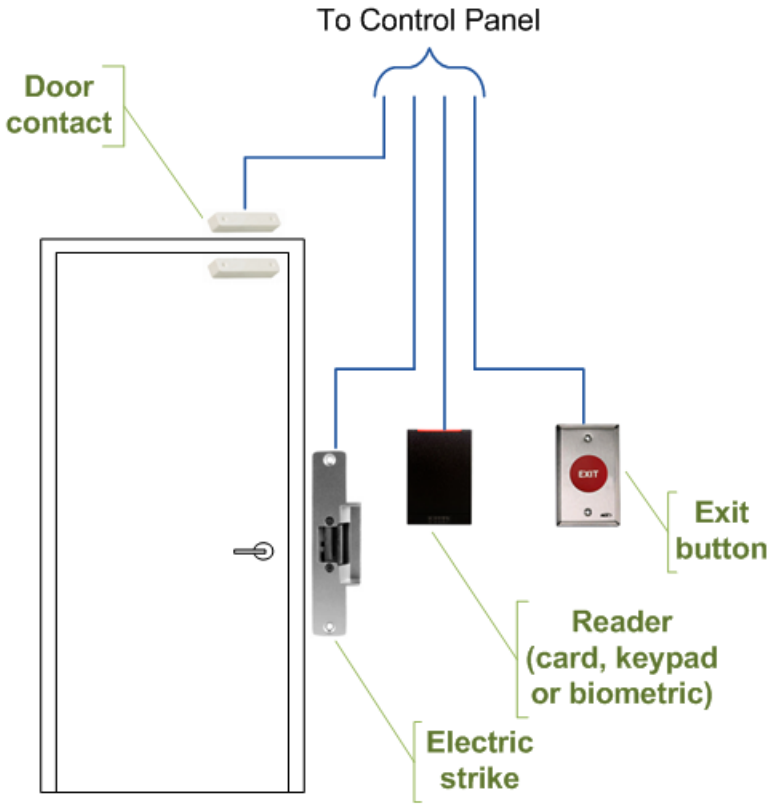
Access Control

Access Control

- ✓ Controls and/or prevents unauthorized entry into a building via a sensor on the egress (inside) side arranged to detect (has a sensor) an occupant approaching the door.
- ✓ Doors are to be arranged to unlock from a manual unlocking device within 5 feet of the door along with a sensor that automatically unlocks door.
- ✓ Loss of power to or activation of the building fire alarm shall automatically unlock the doors.

Reference IFC 1008.1.4.4



Controlled Locks, I-1 and I-2 Occupancies

IFC 1008.1.9.6 Special locking arrangements in Group I-1 or I-2. *Approved* ~~delayed~~ controlled egress locks shall be permitted in Group I-1 or Group I-2 occupancies where the clinical needs of persons receiving care require such locking. Controlled egress locks shall be permitted in such occupancies where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved* automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 7 below. ~~A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an *exit*.~~

1. The doors unlock upon actuation of the *automatic sprinkler system* or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center, a nursing station or other *approved* location.
4. The procedures for the operation(s) of the unlocking system shall be described and *approved* as part of the emergency planning and preparedness required by Chapter 4.
5. All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.
6. Emergency lighting shall be provided at the door.
7. The secure area or unit with delayed egress locks shall be located at the level of exit discharge in Type V construction. (Utah State Amendment)

Exception: Items 1 through 3 shall not apply to doors or to areas where persons, because of clinical needs, require restraint or containment as part of the function of a mental hospital.

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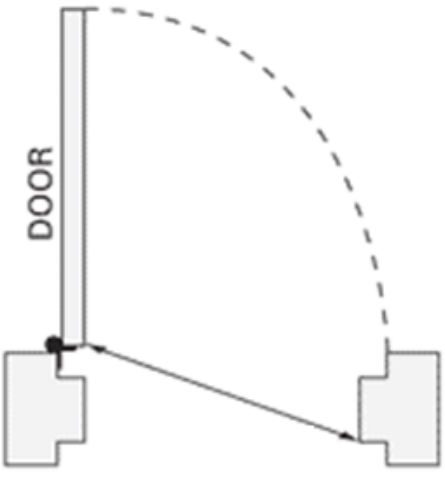
Summary:

- In Utah the term “delayed locks is replaced with the word “controlled” locks.
- Can be used in I-1 and I-2 Occupancies where the clinical needs of person(s) receiving care need to be locked in for their own protection.
- Must have fire sprinkler protection throughout the building.
- Must have smoke or heat protection.
- Doors that have controlled locks must have the lock wired in such a way as to “Unlock” at time of fire alarm.
- Doors that have controlled locks must unlock upon loss of power controlling the lock or lock mechanism.
- Doors that have controlled locks must be capable of being unlocked by a signal from the fire command center, a nursing station or other *approved* location.
- The procedures for the operation(s) of the unlocking system shall be described and *approved* as part of the emergency planning and preparedness.
- All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.
- Emergency lighting shall be provided at the door.
- The secure area or unit with delayed egress locks shall be located at the level of exit discharge in Type V construction. (Utah State Amendment)

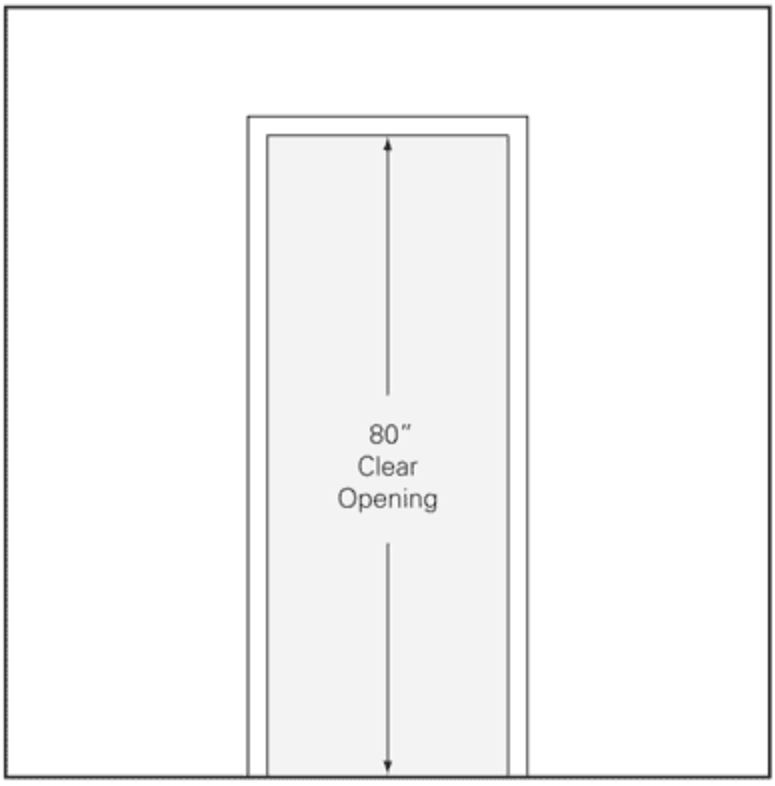
Reference: IFC 1008.1.9.6

1008.1.1 Size of doors. The minimum width of each door opening shall be sufficient for the *occupant load thereof and* shall provide a clear width of 32 inches. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Where this section requires a minimum clear width of 32 inches and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches. The maximum width of a swinging door leaf shall be 48 inches nominal.

Means of egress doors in a Group I-2 occupancy used for the movement of beds shall provide a clear width not less than 41-1/2 inches. The height of door openings shall not be less than 80 inches.



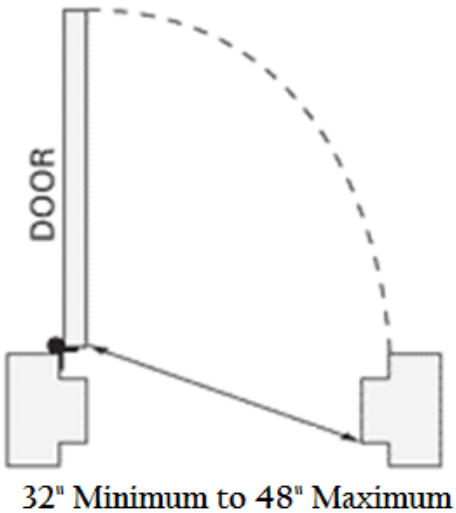
32" Minimum to 48" Maximum



Exceptions:

1) 1 and 2 family dwellings where the door is not part of the means of egress.
2) Door openings to resident sleeping units in Group I-3 occupancies shall have a clear width of not less than 28 inches.
3) Door openings to storage closets less than 10 square feet in area shall not be limited by the minimum width.
4) Width of door leaves in revolving doors that comply with Section 1008.1.4.1 (revolving doors) shall not be limited.
5) Door openings within a dwelling unit or sleeping unit shall not be less than 78 inches in height.
6) Exterior door openings in dwelling units and sleeping units, other than the required *exit door,* shall not be less than 76 inches in height.
7) In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a dwelling unit or sleeping unit that is not required to be an *Accessible unit, Type A unit or Type B unit.*

Review the exceptions that allow doors to be different sizes.



32" Minimum to 48" Maximum

1008.1.1.1 Projections into clear width. There shall not be projections into the required clear width lower than 34 Inches above the floor or ground. Projections into the clear opening width between 34 inches and 80 inches above the floor or ground shall not exceed 4 inches.
Exception: Door closers and door stops shall be permitted to be 78 inches minimum above the floor.

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1008.1.9.4 Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.

2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface mounted bolts are permitted on the inactive leaf.

3. Where a pair of doors serves an *occupant load* of less than 50 persons in a Group B, F or S occupancy, manually operated edge, or surface mounted bolts are permitted on the inactive leaf. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.

4. Where a pair of doors serves a Group B, F or S occupancy, manually operated edge or surface mounted bolts are permitted on the inactive leaf provided such inactive leaf is not needed to meet egress width requirements and the building is equipped throughout with an *automatic sprinkler system in accordance with* Section 903.3.1.1. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.

5. Where a pair of doors serves patient care rooms in Group I-2 occupancies, self-latching edge or surface-mounted bolts are permitted on the inactive leaf provided that the inactive leaf is not needed to meet egress width requirements and the inactive leaf contains no doorknobs, panic bars or similar operating hardware.

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1008.1.9.5 Unlatching. The unlatching of any door or leaf shall not require more than one operation.

Exceptions:

1. Places of detention or restraint.

2. Where manually operated bolt locks are permitted by Section 1008.1.9.4.

3. Doors with automatic flush bolts as permitted by Section 1008.1.9.3, Exception 3.

4. Doors from individual dwelling units and sleeping units of Group R occupancies as permitted by Section 1008.1.9.3, Exception 4.

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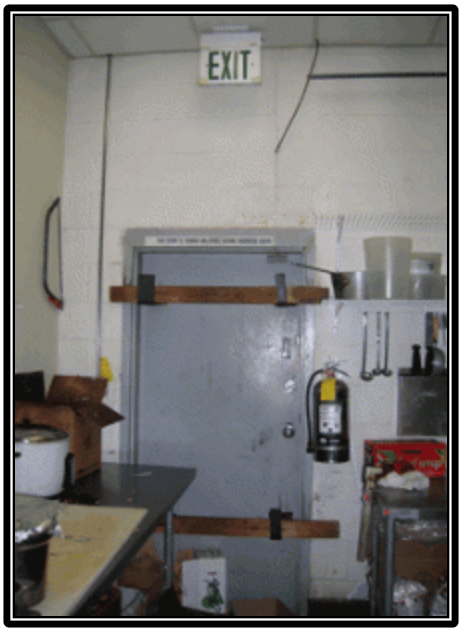

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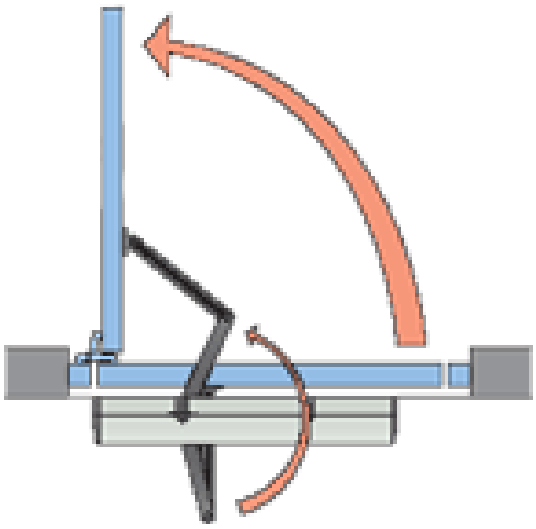
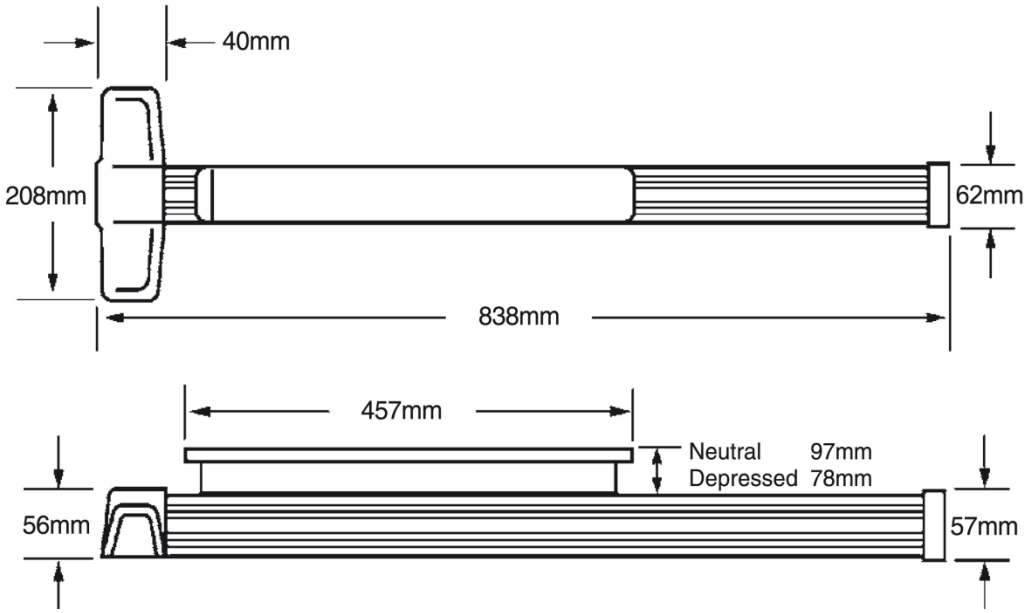
PUSH
TO
EXIT


PUSH
TO
EXIT


DATA
CENTER




40mm
208mm
62mm
838mm
457mm
Neutral 97mm
Depressed 78mm
56mm
57mm